



Fig. 1.—*Trichanthera gigantea*. In cultivation at Bucaramanga, Colombia. (Killip and Smith 15452.)

COSTA RICA: Moist forest of Tilarán, Province of Guanacaste, alt. 500 to 650 meters, *Standley and Valerio* 46569 (N).⁴ Dry forests of Nicoya, *Tonduz* in 1900 (N).

⁴ N = U. S. National Museum; Y = Herbarium of the New York Botanical Garden; G = Gray Herbarium.

PANAMA: Vicinity of Gatuncillo, Canal Zone, *Piper* 5606 (N). Along the Sambú River, southern Darien, above tide limit, *Pittier* 5541 (N, Y). Forests around Pinogana, southern Darien, *Pittier* 6544 (N, G). Wet forest, Río Tapia, Province of Panamá, *Standley* 26149 (N), 30662 (N). Juan Diaz, Province of Panamá *Standley* 30542 (N). Narraganti, *Williams* 1007 (N, Y).

COLOMBIA: *Lehmann* 3040 (N). Antioquia: vicinity of Medellín, *Toro* 78 (Y). Fredonia, *Archer* 523 (N). Bolívar: Open forest, Sahagun, alt. 150 to 200 meters, *Pennell* 4101 (N, G, Y), San Martín de Loba, Lands of Loba, *Curran* 54 (N). Tolima: Ibagué, *Holton* in 1853 (Y). Santander: In yard, Bucaramanga, alt. 1000 meters, *Killip and Smith* 15452 (N). Dry hill-side, Río Surata valley, between El Jaboncillo and Surata, alt. 1,500 to 1,800 meters, *Killip and Smith* 16426 (N). Norte de Santander: Roadside thicket, Culagá Valley, near Tapatá, alt. 1,500 to 2,100 meters, *Killip and Smith* 20504 (N, Y); Western side of Culagá Valley, alt. 1,480 to 1,550 meters, *Killip and Smith* 20534 (N, G, Y). In open along trail between Chinácota and La Esmeralda, alt. 1,000 to 1,300 meters, *Killip and Smith* 20891 (N). Cundinamarca: El Colegio, *Ariste-Joseph* 1061 (N); Between La Mesa and Magdalena, Bogotá, alt. 600 to 1,400 meters, *Triana* in 1851-57 (N, Y). El Valle: Thicket, "La Manuelita," Palmira, alt. 1,090 to 1,110 meters, *Pennell and Killip* 6193 (Y).

VENEZUELA: Between Valera and Monte Carmelo, Trujillo, alt. 535 to 1,830 meters, *Bellard* in 1923 (N). Near Río Cito, *Mell* in 1923 (Y). In hedge, Paso de Guanare, Portuguesa, *Pittier* 3951 (N, Y).

ECUADOR: Provincia Manabi, *Eggers* 14823 (N).

PERU: Near Tarapoto, Dept. of San Martín, *Spruce* 3951 (G).

As in the case of many attractive plants this species bears several common names. In Costa Rica and Panama it is known as "palo de agua," in Venezuela, "naranjillo," in Colombia, "aro-blanco" and "rompebarringa."

TRICHANTHERA GIGANTEA GUIANENSIS Gleason, Bull. Torrey Club 54: 617. 1927.

Inflorescence 3 to 8 cm. long, 2 to 3 cm. broad; corolla 3 to 4 cm. long, yellow and scarlet; filaments pilose throughout.

BRITISH GUIANA: Anabisi River, Northwest District, *De La Cruz* 1348 (N, Y). Canaan, Demerara River, *Jenman* 5356 (Y). Barina River, *Jenman* 7037 (Y).

SURINAM: Paramaribo, *Reyne* in 1922 (N).

BRAZIL: Pará: Breves, *Killip and Smith* 30230 (N, Y).

Reyne found this tree planted as a windbreak in Surinam, where it is called "watra-hoedoe." It differs from the typical form in much smaller inflorescence and in the filaments being pilose throughout.

2. *Trichanthera corymbosa* Leonard, sp. nov.

Tree up to 3 m. high; twigs quadrangular, brownish tomentose, becoming gray and glabrous with age, the angles rounded, the nodes somewhat swollen, the lenticels prominent, round, about 0.5 mm. in diameter; petioles 1 to 5 cm. long, brown-tomentose; leaf blades ovate, 10 to 22 cm. long, 5 to 15 cm. broad, acuminate, blunt at tip, rounded at base or abruptly narrowed and slightly decurrent on the petiole, somewhat oblique, firm, shallowly crenate, the upper surface bearing numerous cystoliths and a few scattered hairs, the

lower surface tomentose, the veins (about 10 pairs) and midrib prominent and strongly tomentose; inflorescence corymbose, 10 to 20 cm. broad, the branches subquadrate and minutely brown-tomentose, the lenticels prominent; bracts small, leaflike, deciduous, those subtending the flowers triangular, 2 to 3 mm. long, 1 to 2 mm. broad; pedicel 2 to 5 mm. long, velvety brown-tomentose; calyx irregular (anterior lobe appreciably longer than the others), 1.5 to 2.5 cm. long, velvety brown-tomentose, the lobes oblong, 10 to 20 mm. long, 3 to 5 mm. broad, obtuse or acute, 5-nerved, the middle nerve more pronounced than the 4 lateral ones; corolla 3 cm. long, the tube 5 to 6 mm. broad, glabrous, the throat and lobes whitish or brown and densely tomentose without, purple and sparingly pubescent within, the limb 2.5 cm. broad, the lobes erect or spreading, ovate, 12 mm. long, 8 to 10 mm. broad, obtuse; stamens 4, in pairs, which are inserted on the upper portion of the corolla tube, exserted, the filaments 15 mm. long, united at base, the united portion 5 to 6 mm. long and pilose, the free portions glabrous; anthers 7 mm. long, 2 mm. broad, the lobes 2 to 3 mm. long, obtuse, sparingly pilose along the sutures; ovary densely yellowish tomentose, 8-ovuled; style 3 to 4 cm. long, pilosulous below, glabrous above, stigma 2-parted, one lobe rudimentary, the other subulate, about 4 mm. long, usually curved at tip; capsule oblong, 1.5 to 2 cm. long, 5 to 7 mm. broad, acute or obtuse at apex, densely tomentose with brownish, more or less spreading hairs; mature seed not seen but probably glabrous and lenticular.

Type in the U. S. National Herbarium, no. 1,355,268, collected in the Culagá Valley, near Tapatá, Dept. Norte de Santander, Colombia, altitude 1500 to 2100 meters, March 4, 1927, by E. P. Killip and Albert C. Smith (no. 20140). Also deposited in the Gray Herbarium and herbarium of the New York Botanical Garden.

Additional specimens examined:

VENEZUELA: Vicinity of Tovar, Mérida, along the Río Macoties, alt. 900 meters, *Pittier* 12828 (N, Y).

This species is very distinct and easily recognized by the cordate leaf blades which are densely brown-tomentose on the lower surface, the unequal calyx lobes with narrow, pointed tips, and the loosely-flowered corymbose inflorescence.

ENTOMOLOGY.—*New Coccinellidae from the West Indies*.¹ EDWARD A. CHAPIN, Bureau of Entomology, United States Department of Agriculture. (Communicated by HAROLD MORRISON.)

The material described below has been received from several sources but by far the most important part has come for study and description from Mr. S. C. BRUNER, of the Estacion Experimental Agronómica de Cuba, at Santiago de las Vegas. In studying Mr. Bruner's *Scymnillodes* it was found necessary to work over all specimens of that genus from the West Indies. Unfortunately, there is at hand no material

¹ Received September 17, 1930.

from Jamaica, from which island there have been described three species. This has prevented a monographic treatment of the genus.

***Geodimmockius*, new genus²**

Head prognathous; front slightly convex; epistoma not covering and not conspicuously raised above labrum; labrum transverse; antenna long, reaching to base of pronotum, inserted near eye at side of front, base free, ten-segmented, first segment the largest, somewhat bent, second as broad as first and little more than half as long, third about half as broad and slightly longer than second, fourth similar to third but slightly shorter, fifth, sixth and seventh of equal length, each slightly shorter than fourth, sixth and seventh noticeably wider than fifth, eighth to tenth forming a fusiform club, ninth and tenth of equal length; mandible with apex undivided, subapical tooth large and prominent, ventral submedian tooth obsolete, dorsal submedian tooth reduced to a small knob, median notch on inner edge large, deep, quadrate; inner margin of mandible above notch cut away; maxilla with three-segmented palpus, apical segment very large, hatchet-shaped, second segment not prolonged at inner apical angle, galea and lacinia each with a cluster of long setae at tips; labium poorly chitinized, quadrate, with a few long setae on external surface, internal surface closely studded with short spines, apical segment of palpus conical, slightly attenuate near tip which is squarely truncate, mentum trapezoidal, broadest in front, bearing eight long setae, submentum very short and transverse. Pronotum moderately convex, transverse, lateral margins broadly explanate, not excavate below for reception of antennae, prosternum moderate, not concealing trophi, tumid, median paired carinae absent. Mesosternum with the median, anterior, crescent-shaped portion deeply sunk and bounded behind by a prominent arcuate carina, intercoxal portion trapezoidal, mesepisternum feebly chitinized and not well defined as to limits, mesepimeron roughly triangular, its inner point reaching and partially bounding coxal cavity. Metasternum broad, anterior lateral portions separated from posterior portion by a prominent transverse carina which is broken at median line, metepisternum not chitinized, metepimeron long and narrow, not excavate for reception of part of leg II. Elytron with epipleura horizontal, lateral margin strongly explanate, epipleura not excavate for reception of legs. Wing venation reduced, only costal, cubitus and fourth median veins visible. Legs essentially similar, femora not notably expanded, tibiae slender, parallel-sided, without grooves for reception of tarsi, without apical spurs but with the usual row of apical setae, tarsi four-segmented, third segment small and inconspicuous, claw with prominent basal tooth. Abdomen with sternites III–VIII visible, metacoxal arcs short and incomplete.

Genotype.—*Geodimmockius explanatus*, new species

This genus is closely allied in structure, though not in appearance, to the following West Indian genera: *Psorolyma* Sicard, *Bura* Mulsant, *Botynella* Weise, all of which the writer has been able to dissect and study. This well defined group shares the following characters: four-segmented tarsi, tarsal claws toothed at base, tibial spurs absent, mandible with subapical tooth

² To George Dimmock (1852–1930) for his extensive investigations in entomology and especially for his *Algunas Coccinellidae de Cuba*, Primer Informe Annual de la Estacion Central Agronómica de Cuba, pp. 287–392, June 1, 1906.

large and remote from apex and with median quadrate notch, antennae ten-segmented with three-segmented fusiform club, metacoxal arcs incomplete.

The following key, based on external characters only, will serve to separate the species of these genera which are known to me.

1. Body strongly convex, outline from above nearly circular.....2
Body not strongly convex, outline from above elongate.....3
2. Length 2.8 mm., bronze with metallic luster, epipleurae descending externally, lateral margin of pronotum not explanate. *Bura cuprea* Muls.
Length 1.7 mm., head, thorax and humeri black, elytra light castaneous, epipleurae horizontal, lateral margins of pronotum explanate
Geodimmockius explanatus, new species.
3. Length 2.0–2.5 mm., metallic blue above, epistoma of male produced in two multiangulate lateral processes.....*Psorolyma maxillosa* Sic.
Length 1.8–2.0 mm., testaceous spotted with black, epistoma not produced in either sex. (*Botynella*).....4
4. Elytra with a median spot common to both.....*Botynella 5-punctata* Ws.
Elytra without sutural spot.....*Botynella 4-punctata* Ws.

Geodimmockius explanatus, new species

Nearly circular, strongly convex, lateral margins of pronotum and elytra with broad, transparent, testaceous, explanate margins; head, last three segments of antenna, pronotum, humeri and under surface of body black, elytra (except humeri) castaneous, basal segments of antenna, trophi and legs testaceous. Head finely sparsely punctured, eyes convex and prominent, labrum nearly quadrate; pronotum convex, more coarsely and much more densely punctured than head, twice as broad as long (by measurement), elytra with punctation similar to that of pronotum, greatest width at basal third where their combined width is one and one-half times that of pronotum; under parts finely alutaceous, very finely and sparsely punctured; legs moderately long, not received in cavities beneath body. Length: 1.7 mm., width: 1.5 mm., altitude: 0.85 mm.

Type and paratypes.—Cat. No. 43129, U. S. N. M.

Type a male, paratypes two females, all from S. Nicolas, Oriente Prov., Cuba, July 20–27, 1927, S. C. Bruner, collector, taken on *Coffea arabica*, E. E. A. de Cuba, No. 9338. One paratype, female, same data, in collection of S. C. Bruner. One paratype, female, same data, in collection of the British Museum.

Scymnillodes bruneri, new species

Oval, convex, shining, brassy with rose-red reflections, under parts black. Head with reflexed epistoma, front sparsely and moderately coarsely punctured, sparsely hairy. Antennae brownish, palpi and mandibles black. Pronotum about twice as broad as long (length-width ratio = 20:39), marginal bead very fine, sides rather broadly and strongly reflexed. Punctation extremely fine, hardly visible under magnification of 64×. Elytra punctured like pronotum, lateral margin beaded and slightly reflexed, basal and sutural margins not beaded. Epipleurae with very slight excavations for legs, broad before middle, disappearing shortly behind middle. Prosternum and mesosternum with a few very coarse punctures, metasternum sparsely and rather

finely punctured. First visible abdominal sternite very sparsely punctured outside of the strongly raised metacoxal area, areas enclosed by arcs strongly alutaceous and more finely and densely punctured. Second to fourth sternites alutaceous laterally, shining medianly, each with one complete transverse row of rather coarse punctures and with other punctures near lateral margins. Legs and tarsi black. Length: 1.5 mm., width: 1 mm., altitude: 0.7 mm.

Type.—Cat. No. 43130, U. S. N. M., from Santiago de las Vegas, Cuba, April 1, 1930, S. C. Bruner, collector. Paratype, same place, April 8, 1930, S. C. Bruner, collector, in collection of S. C. Bruner.

Easily separated from the other species of the genus by the black legs and almost invisible punctation of the pronotum and elytra.

Scymnillodes iris, new species

Oval, convex, shining, head bluish green, pronotum brassy-green, elytra rosy purple margined with brassy green, all parts with strong metallic reflections, under parts black. Head with reflexed epistoma, front moderately densely set with deep and distinct punctures, sparsely but rather conspicuously clothed with white hairs. Antennae not noticeably paler than palpi or mandibles. Pronotum twice as wide as long, marginal bead strong, side margins narrowly but sharply reflexed. Punctation of pronotum finer and slightly denser than that of head, pubescence not evident. Elytra with punctures of two sizes; however, the difference in the sizes is not so well marked as in *S. splendidus*. The density of punctation is about the same on pronotum and elytra. Marginal bead fine, noticeable both on lateral and sutural margins, basal margin not beaded. Epipleurae without defined excavations for reception of legs, broad anteriorly, rapidly disappearing behind. Prosternum very coarsely punctured, meso- and metasternum less coarsely and rather sparsely punctured. First abdominal sternite sparsely but coarsely punctured, other sternites as in *S. splendidus*. Legs and tarsi black. Length: 1.5 mm., width: 1.1 mm., altitude: 0.7 mm.

Type.—Cat. No. 43131, U. S. N. M. from Havana, Cuba, W. M. Mann, collector.

Scymnillodes splendidus, new species

Broadly oval, strongly convex, shining, greenish-blue to purplish blue, luster strongly metallic, under parts black. Head strongly and moderately densely punctured, very inconspicuously hairy, epistoma strongly margined. Antennae brownish, palpi and mandibles black. Pronotum more than twice as broad as long (length-width ratio = 14:30), marginal bead complete, punctures of uniform size, rather coarse and not densely placed. Scutellum small, triangular, impunctate. Elytra with mixed punctation of large and small punctures, the large punctures and also the punctures of the pronotum umbilicate. Lateral marginal bead very strong, basal and sutural margins not beaded. Epipleurae broad basally, excavate for reception of middle and hind legs but not sharply so, narrowing rapidly behind middle and disappearing in the latitude of the second visible abdominal segment. Prosternum and mesosternum very coarsely and closely punctured, metasternum less coarsely and quite sparsely punctured, especially in the median area. First visible abdominal sternite very sparsely punctured outside of the strongly raised metacoxal arcs, areas enclosed by arcs strongly alutaceous and more finely

and densely punctured. Second to fourth sternites alutaceous laterally, shining medianly, each with one complete transverse row of rather coarse punctures and with other punctures near lateral margins. Fifth sternite broadly rounded behind, slightly tumid in female, flat in male, evenly and rather coarsely punctured. Legs black, tarsi slightly paler. Length: 1.6–1.8 mm., width: 1.3–1.4 mm., altitude: 0.90–0.96 mm.

Types and paratypes.—Cat. No. 43132, U. S. N. M.

Types and two paratypes from Baragua, 8.3.27, on citrus, L. C. Scaramuzza, collector, T. P. R. F. No. 3237; eight paratypes from Guantanamo, 1918, W. M. Mann; one paratype from Cayamas, 8.6., E. A. Schwarz; one paratype from Central Jaronu, Aug. 10, C. F. Stahl, T. P. R. F. No. 2246; six paratypes from Paso Estancia, May 2, 1916, preying on *Lepidosaphes* sp.; six paratypes from Santiago de las Vegas, April 3, 1930, S. C. Bruner, E. E. A. de Cuba No. 9325; two paratypes from same place, Feb. 18, 1930, P. A. Berry, on *Aleurocanthus woglumi* Ashby; three paratypes from same place, July 14, 1930, S. C. Bruner; one paratype from near Santiago de Cuba, Oct. 4, 1928, Silvestri and Bruner; six paratypes from Camaguey, July 19, 1923, J. Acuña; four paratypes from Isle of Pines, on grapefruit, intercepted at Cincinnati, Ohio, U. S. A. by R. S. McKay. Paratypes in the collection of S. C. Bruner: one from Santiago de las Vegas, Feb. 18, 1930, P. A. Berry; one from same place, April 8, 1930, S. C. Bruner; one from Paso Estancia, May 2, 1916; one from Guantanamo, 1918, W. M. Mann; one from Camaguey, July 19, 1923, J. Acuña. Paratypes in collection of the British Museum: one from Santiago de las Vegas, Feb. 18, 1930, P. A. Berry; one from Paso Estancia, May 2, 1916.

The Santiago de las Vegas, Santiago de Cuba, and Isle of Pines specimens differ from the others in that the elytra are sharply bicolored, the lateral margins being deep blue while the discal areas are greenish. In a few the suture is also blue. I have been unable to find the slightest structural difference between specimens of these forms.

Scymnillodes caseyi, new name

1924. *Delphastus violaceus* Casey, *Memoirs Coleoptera*, 11: 170, nec *Scymnillodes cyanescens*? var. *violaceus* Sicard, 1922.

This species was based on one of a series of specimens taken at Cayamas, Cuba, by the late E. A. Schwarz. Judging from the eight specimens in the Museum collection, Casey's type was not fully colored at the time of its capture and for this reason only the posterior femora are dark. In what appear to be fully colored specimens all femora are nearly black, the pale yellowish tibiae in striking contrast with them. In addition to the Schwarz specimens from Cayamas there are in the collection one specimen from Cayamas collected by George Dimmock, one from Simpatia, Cuba, by W. M. Mann, two from Cabada, Cuba, by W. M. Mann, and two from Maricao, Porto Rico, July 2, 1917, by Harold Morrison (his number A-239).

The Dimmock specimen noted above was recorded in his "Algunas Coccinellidae de Cuba" as *Bura* sp.

Scymnillodes gilvifrons, new species

Oval, convex, shining, head metallic greenish, pronotum and elytra metallic violaceous, front of head and anterior angles of pronotum densely set with golden pubescence, under parts black, appendages yellowish to reddish testaceous. Head with epistoma hardly reflexed, punctation moderately dense and coarse but somewhat obscured by the pubescence. Mandibles castaneous, darker than labrum, antennae or palpi. Pronotum twice as wide as long, marginal bead strong at sides and across base, complete but fine across front margin, side margins narrowly but sharply reflexed. Punctuation less dense but equally coarse to that of head, pubescence restricted to anterior angles. Elytra coarsely, sparsely and irregularly punctured, fine punctures absent. Marginal bead fine, present only on lateral margins. Epipleurae without defined excavations for legs, rather narrow from base to end of first abdominal sternite, rapidly disappearing behind. Prosternum with a few very coarse punctures covering most of the surface, meso- and metasternum more sparsely punctured, the latter punctured only at sides and along median line. Abdominal sternites strongly alutaceous at sides, sparsely and rather finely punctured. Legs and tarsi reddish testaceous. Length: 1.5 mm., width: 1.1 mm., altitude: 0.8 mm.

Type and three *paratypes*.—Cat. No. 43133, U. S. N. M., from Maricao, Porto Rico, July 2, 1917, H. Morrison, collector, original number A-289.

Easily recognized by the brilliant yellow pubescence on head and pronotum.

Scymnillodes subtropicus Casey

1924. *Delphastus subtropicus* Casey, *Memoirs Coleoptera*, 11: 170.

Five specimens of this species from Key West, Florida, and one from Biscayne, Florida, are in the Museum collection. The Biscayne specimen is rather more violaceous in color than the Key West series but in structure and punctuation there appear to be no differences. A true *Scymnillodes* and the only species of this genus to be reported from the mainland of the Americas.

Scymnillodes atrox, new species

Oval, convex, shining, black, head with a greenish metallic luster, pronotum with bluish metallic luster, appendages reddish testaceous. Head with epistoma slightly reflexed, front rather sparsely and finely punctured, sparsely pubescent with pale whitish hairs. Pronotum very slightly more than twice as broad as long (length-width ratio = 19:40), marginal bead fine, side margins very narrowly reflexed. Punctuation of pronotum same as that of head, pubescence not evident. Elytra rather less densely punctured than pronotum, punctures of a uniform size which is slightly larger than those of pronotum. Marginal bead fine, noticeable both on lateral and sutural margins. Epipleurae not foveolate, moderate in width, rapidly disappearing behind level of first abdominal sternite. Prosternum coarsely but obsoletely punctured, mesosternum rather densely set with large ill-defined punctures, metasternum very sparsely and rather finely punctured. Abdominal sternites alutaceous laterally, sparsely and finely punctured, the second to fourth with the usual single transverse row of punctures. Legs and tarsi reddish testaceous. Length: 1.4 mm., width: 1.0 mm., altitude: 0.7 mm.

Type.—Cat. No. 43134, U. S. N. M., from Camp Herrin, La Prise, Haiti, July 26, 1925, W. A. Hoffman, collector.